Sample Tree Inventory and Canopy Cover Assessment Program

Urban and Community Forestry

The N.C. Forest Service has partnered with the N.C. Urban Forest Council and urban forestry consulting firm (PlanIT Geo, Inc.) to provide sample tree inventories and tree canopy cover assessments on demand for North Carolina municipalities through our Financial Assistance Program.
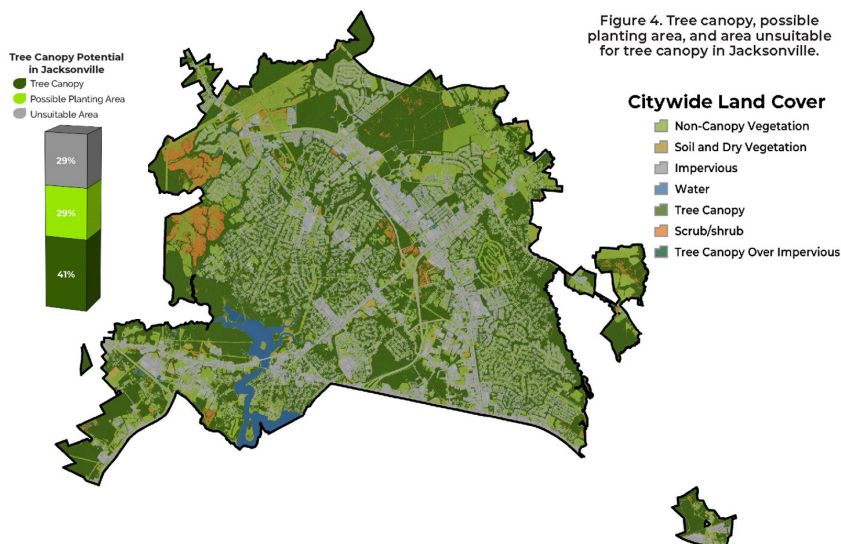
Canopy Cover Assessments

A tree canopy cover assessment uses aerial photographs and other types of imagery to quantify the area of a community covered by tree canopy, vegetation and other land features and the ecosystem service benefits the existing tree canopy provides.

These analyses are used for planning purposes to set tree canopy cover goals and monitor change over time. The maps generated also visually identify areas of opportunity to add canopy cover.

Figure 4. Tree canopy, possible planting area, and area unsuitable for tree canopy in Jacksonville.

Tree Canopy Potential in Jacksonville
- Tree Canopy
- Possible Planting Area
- Unsuitable Area

29%
29%
41%

Citywide Land Cover
- Non-Canopy Vegetation
- Soil and Dry Vegetation
- Impervious
- Water
- Tree Canopy
- Scrub/shrub
- Tree Canopy Over Impervious

Services Provided

Analyses are completed within the boundaries of the municipality as well as within smaller geographically bound areas (zoning districts, parcels, rights-of-way, census blocks, storm water areas) within your municipality. Within these boundaries, the percent area covered by land cover classes is quantified. A summary report of the findings will be provided. There are three cost options (levels of analysis) based on the number of geographic bound areas (Geographies) and land cover classes to be analyzed.

Items Analyzed	Basic Analysis	Medium Analysis	Advanced Analysis
# of Land Cover Classes	Up to 6	6 plus available dependent on local GIS data*	6 plus available dependent on local GIS data*
Geographies (Dependent of local GIS data)	Municipal Boundary, Census Blocks, Zoning Districts, Rights-of-way/Parks	Add 1 additional geography choice	Add 4 additional geography choices

* Minimum six land cover classes (aka, outputs): tree canopy, shrub, grass, bare earth (soil, sand, dry vegetation), impervious surfaces, and open water. Up to 10 classes with additional sub-types of impervious surfaces will be added to the land cover data map only for the municipalities that can provide recent (updated) high-quality GIS data layers, such as buildings, streets, sidewalks, parking lots, and driveways.
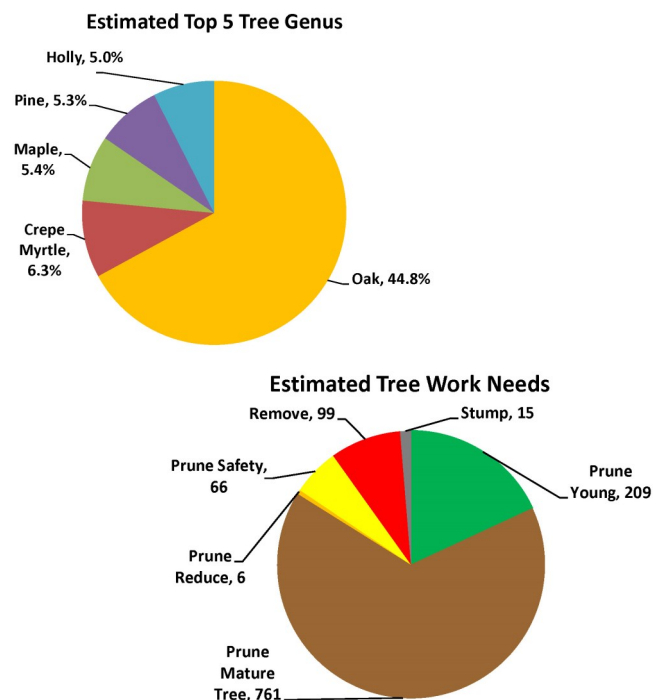
Cost

Based on the square miles of your community and the level of analysis to be completed, a cost to complete the canopy cover assessment is calculated. The standard Financial Assistance Program offering is 50% of the cost. Disadvantaged Communities may be eligible additional financial assistance.   **Square Miles x Analysis Cost + Base Setup & Report = Total Cost of Canopy Cover Assessment**

Area Square Miles Range	Basic Analysis Cost	Medium Analysis Cost	Advanced Analysis Cost
0-25 sq miles	$165.00	$192.50	$225.50
>25-50 sq miles	$161.70	$188.65	$220.99
>50-100 sq miles	$158.40	$184.80	$216.48
>100+ sq miles	$155.10	$180.95	$211.97
Base Setup & Report Fee	$4,500	$6,022	$8,500

Sample Tree Inventory

A sample tree inventory is a statistically valid sample of the urban forest. The results provide good estimates of the numbers of trees in the population, health, management needs and other management information. This information can be used for planning purposes and budgeting. It is a good tool for beginning to develop a plan, and/or communities that do not have the capacity to complete and maintain a complete tree inventory.

A sample inventory can also be used as a storm damage assessment tool. The sample plots are re-inventoried after a community wide event and the data can be used to estimate the amount of damage and needs to mitigate the damage.

Estimated Top 5 Tree Genus

Holly, 5.0%
Pine, 5.3%
Maple, 5.4%
Crepe Myrtle, 6.3%
Oak, 44.8%

Estimated Tree Work Needs

Remove, 99
Stump, 15
Prune Safety, 66
Prune Young, 209
Prune Reduce, 6
Prune Mature Tree, 761

Services and Cost

A statistically valid sample will be designed based on the size of your municipality. Trees on the sample plots will be inventoried using specifications developed by the N.C. Forest Service and completed by International Society of Arboriculture Certified Arborists. The findings of the inventory will be summarized in a report generated from TreePlotter Inventory.

The cost to complete the sample tree inventory is based on the sample size and the number of street miles for street trees and the number of acres for trees on your parks and other public properties. The standard Financial Assistance Program offering is 50% of the cost. Disadvantaged Communities may be eligible for additional financial assistance.
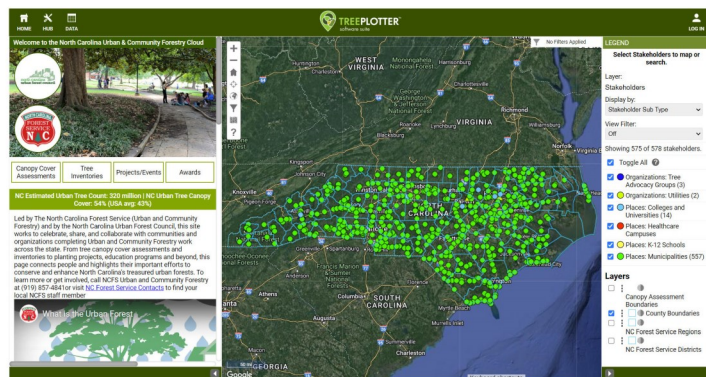
Cost = Sample Size x Number of Street Miles or Acres

Population	Sample Size
Less than 50,000	6%
Between 50,000 and 150,000	5%
Between 150,000 and 250,000	4%
Over 250,000	3%

Street Trees (Cost per Street Mile)	$300
Parks and Public Property Trees (Cost per Acre)	$200

N.C. Urban and Community Forestry Cloud Software

Included with either service, your data will be uploaded into the North Carolina Urban & Community Forestry Cloud and you will be given login credentials that will allow you to access to plan and report on your community efforts. Municipalities may also purchase a discounted annual subscription for editing level access to TreePlotter Inventory software.